

AMENDMENTS TO THE CLAIMS

Claims 1-4 and 9-18 were pending at the time of the Action.

No claims are canceled in this Response.

No claims are amended in this Response.

Accordingly, claims 1-4 and 9-18 remain pending.

1. (Previously Presented) A method comprising:

storing files across multiple computers in a distributed file system;

making changes to certain files;

collecting the changes that are made to the certain files stored in the distributed file system; and

digitally signing the changes in batch.

2. (Original) A method as recited in claim 1, wherein the collecting comprises:

computing a hash of data in each file that is affected by the changes; and

grouping the hashes together in batch for signing.

3. (Original) A data structure, embodied on a computer-readable medium, produced by the method of claim 1.

4. (Original) One or more computer readable media comprising computer-executable instructions that, when executed, perform the method as recited in claim 1.

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2 5. (Canceled)

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4 6. (Canceled)

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6 7. (Canceled)

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8 8. (Canceled)

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10 9. (Original) In a distributed file system that stores encrypted files
11 across multiple computers, a method comprising:

12 modifying one or more of the encrypted files;

13 computing a hash value of each modified encrypted file;

14 collecting the hash values into a group;

15 computing a hash value of the group; and

16 digitally signing the hash value of the group of hash values.

17
18 10. (Original) A method as recited in claim 9, wherein the modified
19 encrypted file includes a metadata stream containing a header and an indexing
20 structure, the indexing structure including hashes of the files and a structure to
21 access the hashes of the files, the computing a hash value of each modified
22 encrypted file further comprising deriving a hash of the header and at least part of
23 the structure.
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11. (Original) A method as recited in claim 9, wherein the modified encrypted file includes a metadata stream containing a header, per user information, and an indexing tree, the indexing tree including hashes of the files, branch nodes to access the hashes, and a root node, the computing a hash value of each modified encrypted file further comprising hashing as a single composite the header, the per user information, and the root node.

12. (Original) A data structure, embodied on a computer-readable medium, produced by the method of claim 9.

13. (Original) One or more computer readable media comprising computer-executable instructions that, when executed, perform the method as recited in claim 9.

14. (Original) One or more computer readable media comprising computer-executable instructions that, when executed, direct a computing device to:

modify individual files stored in a serverless distributed file system;
compute a hash value of each modified file;
collect the hash values into a group; and
digitally signing the group of hash values.

15. (Original) One or more computer readable media as recited in claim 14, wherein the modified file includes a metadata stream containing a header and an indexing structure, the indexing structure including hashes of the files and a

1 structure to access the hashes of the files, the media further comprising computer-
2 executable instructions that, when executed, direct a computing device to derive a
3 hash of the header and at least part of the structure.

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5 16. (Original) One or more computer readable media as recited in claim
6 14, wherein the modified file includes a metadata stream containing a header, per
7 user information, and an indexing tree, the indexing tree including hashes of the
8 files, branch nodes to access the hashes, and a root node, the media further
9 comprising computer-executable instructions that, when executed, direct a
10 computing device to hash as a single composite the header, the per user
11 information, and the root node.

12
13 17. (Original) A data structure stored on a computer-readable medium
14 comprising:

15 representations of modifications made to multiple files stored in a
16 distributed file system; and

17 a digital signature covering at least part of the representations to indicate
18 that the modifications were made by a user with the signature.

19
20 18. (Original) A data structure as recited in claim 17, wherein the
21 representations comprise hashes of data in each file that is affected by the
22 modifications.